New York State Department of Transportation
Office of Engineering

OPERATIONAL PLAN
SFY 2000-2001 and Beyond

Quality
People

Quality
Service

Technical Services

Geotechnical Engineering
Highway Data Services
Materials
Transportation Research

Paul J. Mack, Deputy Chief Engineer/Director, Technical Services Division
Wesley P. Moody, Director, Geotechnical Engineering Bureau
Ronald W. Tweedie, Director Highway Data Services Bureau
Robert L. Sack, Director, Materials Bureau
Robert A. Valenti, Director, Transportation Research & Development Bureau

TECHNICAL SERVICES DIVISION
OPERATIONAL PLAN FOR SFY 2000/2001 AND BEYOND

PLAN OF ACTION

Introduction

The Technical Services Operational Plan contains both recent accomplishments and the priorities, issues and goals for the program for SFY 2000/01 and beyond.

The Technical Services program provides materials and geotechnical engineering services, data services and targeted transportation research to the Department through the:

- conduct of specialized studies requiring investigations, testing and analysis, utilizing both internal and external resources.
- collection and dissemination of data on the inventory, condition, and use of the State Highway System.
- management and operation of a materials quality assurance program.
- development, recommendation, and implementation of engineering policies, standards and specifications.

These services are provided through the Materials, Geotechnical Engineering, Highway Data Services, and Transportation Research and Development Bureaus in the Central Office in conjunction with the Technical Services, Materials, Geotechnical and Regional Program Offices in the Regions. The Technical Services program is founded on a multi-million dollar investment in tangible assets of laboratories and equipment in both the Central Office and the Regions. These assets are utilized by an even more important cadre of well trained, dedicated and capable staff. There are approximately 250 employees in the Division and more than 300 in the Regional counterparts. In the Regions, the program receives its staff through the Design, Construction and Planning program budgets.

The program serves all elements of the Department as well as some external clients because of the program units' expertise and facilities. The services provided directly support both the planning for and implementation of the Department's capital and maintenance programs, and thus impact the expenditure of several billion dollars each year.

The strength of our Division clearly lies within its people. We are a Division of experts in chemistry, geology, pavement design, materials, data services, structural engineering, geosynthetics, foundation engineering, materials behavior, physical testing, decision sciences, quality assurance techniques, and many other disciplines.

NYSDOT
Library
50 Wolf Road, POD 34
Albany, New York 12232

When one looks to the future, it is easy to see that it will require increasing degrees of sophistication and at an accelerating pace. The extent to which the Department is prepared to function in a future of technological complexity will depend on how well we prepare within the Division and how well we are supported in our efforts by others.

The Division continues a long trend of being hampered by a shortage of human resources. In the following pages, our joint accomplishments over the past year are documented. That we were able to get so much done is a tribute to those who work in this Division and our counterparts in the Regions.

With the anticipated passage of a proposed Bond Issue for transportation, our capital program will expand on the order of 25% over the next five years. During that same period many of our most experienced people will be retiring, others will be lost to the Division through transfer or promotion and still others will pursue private employment. The future success of the Division and by extension, the Department will depend on our ability to hire and train replacements in numbers sufficient to support the mission of the Division.

QUALITY SERVICES

The Division takes justifiable pride in its accomplishments; both in terms of its production and continuous improvement achievements.

A sampling of the production activities follows:

NUMBER	ACTIVITY
1462	NYSDOT employees trained by the Materials Bureau
1545	NYSDOT employees trained by the Geotechnical Engineering Bureau
200	Court cases in which Photolog prints were utilized as evidence
25,749	Kilometers of State highway inventoried and condition scored
2,229	Transactions by Research Library
5	Research Newsletters
1,124	Soil Sample Identification Tests
667	Bridge Foundation Designs
12,537	Kilometers of highway filmed via Photolog, 4,890 Photolog prints sold
647	Evaluations of Materials Plants & Facilities, Sources and Products
25	Soil Consolidation Tests
240	Wall Designs
133	Geologic Survey & Analysis of Rock Cut Slopes
8,938	"Short" traffic counts taken on 8,472 locations around the state
475	Vehicle classification counts taken
300	Public Inquiries for highway data answered
1,600	Municipalities contacted to update the Local Highway inventory
109	Materials Project Level Design Consultations
610	General Roadway Inspections
152	Revisions to Geotechnical Specifications & Standards
15	Materials QA Procedures developed/revised
73,577	Materials Tests completed on 22,452 samples
4	Research and Technical Services Publications produced
4	Contract Research Assignments Executed
6,050	Geosynthetic Tests completed
2,275	Granular Materials Soil Tests
75	Roadway Foundation Designs
119	Materials Construction Evaluations
48	Soil Strength Tests
521	Topsoil Tests
36	Papers published by Transportation Research Board or other National technical forums
4	Department sponsored NCHRP Research Projects approved for funding
49	Materials Standard Specifications developed

A sampling of our continuous improvement activities follows:

RECYCLED TIRE SHREDS USED AS LIGHT WEIGHT FILL

The Geotechnical Engineering Bureau, in cooperation with Region 9, used recycled tire shreds as embankment material for the first time on the State system. Light weight fill applications are proving to be a viable use for recycled tires. Several waste tire stockpiles were eliminated in conjunction with this project. The Department of Environmental Conservation and the Department of Economic Development were instrumental in implementing this initiative. We will continue to exploit this technology, for the dual purpose of making use of the properties of tire shreds (lightweight fill, excellent drainage) and helping clean up New York State's waste tire stockpiles.

PAVEMENT FRICTION EVALUATION OF WAPPINGER DOLOMITE BLENDS

The Materials Bureau completed its evaluation of the friction characteristics of downstate hot mix asphalt pavements constructed with Wappinger Dolomite blends between 1992 and 1998. Bureau staff conducted a record number of friction tests (in excess of 9,300) to complete this study and to evaluate wet weather Priority Investigation Locations (PILs). The results of the Wappinger Dolomite blend evaluation were transmitted to the affected regions and to the Traffic Engineering and Safety Division for appropriate action.

EXPANSION OF THE CONTINUOUS COUNTER TRAFFIC MONITORING SYSTEM

The Highway Data Services Bureau has initiated a project to expand the number of continuous counters (CC) in the state by 50% to a total of approximately 150 stations. In addition to construction of the new stations, the contract will include an innovative concept of contracting out for the maintenance and operation of the entire system. The contractor will retain possession of the traffic count devices and be paid on the basis of the amount of data received. This approach provides the contractor an incentive to always use the most technologically advanced equipment available to ensure the most reliable, and least cost operations. It also relieves the State of the burden of updating specifications and equipment to keep up with innovations in the traffic monitoring arena. The continuous counter system is important to the Department's planning and design activities because it provides the data for the analysis of daily, weekly, and seasonal traffic patterns and variations. This information is used to adjust the 8,000 "short counts" taken per year to reflect the annual averages (AADT).

THE APPLICATION OF ADVANCED COMPOSITES TO THE BRIDGE PROGRAM "BRIDGE STRENGTHENING"

The Transportation Research and Development Bureau, along with Regions 1, participated in a bridge strengthening project involving fiber reinforced polymers (FRP). A 70 year old bridge in Troy, N.Y., which carries Rte. 378 over the Wynantskill Creek, was rehabilitated in 1999. The project involved wrapping concrete T-beams using a carbon fiber FRP. The Region had concerns about the integrity of the reinforcing steel in the T-Beams due to salt and water leakage through joints. FRP, long used in the aerospace industry for their high strength and light weight, are beginning to be utilized in civil engineering applications to rehabilitate and strengthen older structures, rather than replace them. TR&DB cooperated with Region 1 staff by reviewing the consultant's design and conducting structural evaluation of the strengthening system through load testing. The project resulted in considerable monetary savings to the Department.

COMPREHENSIVE PAVEMENT DESIGN MANUAL

The Geotechnical Engineering Bureau (GEB) has created the Comprehensive Pavement Design Manual to gather all of the Department's pavement design guidance into a single, easily accessed document. A joint effort between GEB, the Materials Bureau, the Design Quality Assurance Bureau, and many others, this new design tool has required a major effort to develop, write, and coordinate all of the documents within it.

REGIONAL GRANULAR MATERIALS TESTING

In a partnering effort between the staff of Region 11 and the Geotechnical Engineering Bureau, a new Regional testing facility has been established for the quality assurance testing of granular materials destined for use in the New York City Area. Use of this facility should improve customer service by decreasing testing turnaround times to construction projects requiring this type of testing. The new facility will eliminate the need to transport samples from New York City to our Main Office laboratory in Albany.

DEVELOPMENT OF A PAVEMENT PREVENTIVE MAINTENANCE MANUAL

The Materials Bureau has completed a comprehensive preventive maintenance manual for asphalt pavements. Materials Bureau staff, working closely with Regional staff and industry representatives of the Liquid Asphalt Distributors Association (LADA) developed this manual containing up-to-date guidelines and specifications for the many preventive maintenance treatments currently available for hot mix asphalt pavements. The preventive maintenance manual will be identified as Chapter 10 of the Comprehensive Pavement Design Manual and will appear in the final version of the CPDM when it is released later this year.

EVALUATION OF ALTERNATIVES TO HERBICIDES UNDER GUIDE RAILS AND AROUND SIGN POSTS

In 1998, the Department established a technical committee to evaluate alternatives to herbicides to control vegetation under guide rails and sign posts. Represented on this "environmentally friendly" committee are employees from the Transportation Research and Development Bureau, the Transportation Maintenance Division, the Environmental Analysis Bureau, and the Landscape Architecture Bureau. The committee works closely with major environmental groups in identifying, selecting, and evaluating alternatives to herbicides. Since its inception, the committee has evaluated 37 alternatives and prepared an action plan for the most promising alternatives. In 1999, several demonstration projects were initiated around the state to evaluate mulch-mats, weed fabric, mowers capable of reaching under guide rails and a natural herbicide. The evaluations will continue during the 2000 season and a request for proposals is being developed for identification of non-invasive, low-growing alternative ground-covers.

UTILIZING NEW PARALLEL SEISMIC TESTING TECHNOLOGY

New parallel seismic testing technology was utilized to assess existing foundation depths on five bridges exposed to tidal scour on Long Island, after a nearby bridge had to be closed due to loss of foundation support. The study conducted by the GEB concluded that these five bridges were solidly founded, eliminating the concern that extensive and expensive rehabilitation or replacement was required.

NEW STANDARDS FOR UTILITY CUT REPAIRS

At the request of industry, the Geotechnical Engineering Bureau has developed new standards for utility cut repairs which will minimize the damage done to pavements for utility work and the effort required to restore these pavements after the work. Advances in backfill and pavement technology have made this possible.

PORTLAND CEMENT CONCRETE DESIGN TABLES

The Transportation Research and Development Bureau has developed PCC design tables using a mechanistic-empirical approach based on New York's past pavement performance, environmental conditions, and traffic loads. The advantage of this procedure is that it provides a rational method for PCC pavement design based on engineering mechanics calibrated with empirical performance of in-service pavements accounting for changes in slab length, support conditions, shoulder type and widened lanes. New design tables were developed and incorporated into the Comprehensive Pavement Design Manual.

DEVELOPMENT AND IMPLEMENTATION OF MATERIALS METHOD 28

The Materials Bureau, in association with the Empire State Concrete and Aggregate Producers Association (ESCAPA) and the New York State Asphalt Pavement Association (NYSAPA), developed Materials Method 28. This quality assurance document will insure consistent application of test procedures and blend proportion determinations conducted by Quality Control Technicians at the production facility and at the Department's regional and main office laboratories. Bureau and industry staff presented training on Materials Method 28 to Industry and Regional Materials Personnel. The training focused on the development of MM28, aggregate identification procedures used by the Department, and the required calculations. Sessions were held in Rochester, Syracuse, Newburgh, and Hauppauge. One additional session was held in Syracuse, in association with the Liquid Asphalt Distributors Association, which focused on testing micro-surfacing aggregates. A total of 266 people (158 Industry and 108 State) were trained by this effort.

STRUCTURAL MATERIALS TECHNOLOGY: NON DESTRUCTIVE TESTING (NDT) CONFERENCE

NYSDOT co-sponsored the fourth biennial "Structural Materials Technology: An NDT Conference" in Atlantic City, NJ. The goal of this conference was to promote nondestructive testing technologies for structural evaluation, and to provide a forum for transportation engineers to exchange information related to fabrication, inspection, and in-service evaluation of steel, concrete, and composite structures. More than 200 people attended the conference representing several states, FHWA, universities, and industry. Sixty technical presentations were given on timely topics such as Sign Structures and Structures Retrofitted or Strengthened Using Advanced Composites. These are two critical issues facing most highway Agencies. The conference proceedings have been published.

GPS TECHNOLOGY USED TO MAP GEOPHYSICAL FEATURES

Mapping of significant geophysical features, such as rock outcrops, possible wetlands, or slope failures, was previously accomplished with hand-drawn sketches or marked up plan sheets. With the advent of Global Positioning Systems (GPS), this work can now be done significantly faster and more reliably. In addition, locating proposed work and the associated necessary subsurface explorations can be done using this new technology. The GEB has obtained several GPS units and trained staff in their use.

COLLABORATIVE EVALUATION OF A BRIDGE PAINT SYSTEM

The Materials Bureau joined with the New York State Thruway Authority, New York State Bridge Authority and several neighboring states (i.e., Massachuset, Vermont, New Hampshire and Connecticut) to evaluate the Noxyde paint system. This system was being marketed as an over coating system throughout the northeast. Through this collaborative effort, the agencies involved were able to pool their expertise and resources to conduct a more thorough and timely evaluation of the paint system.

USE OF CULLET GLASS AS UNDERDRAIN FILTER MATERIAL

Glass of mixed colors from curbside recycling programs is a difficult material to market. This product, referred to as Cullet glass, has been successfully used in Texas and other states as an underdrain filter. Cullet glass has also been used in Schenectady County as aggregate in agricultural sub-surface drainage systems. The Transportation Research and Development Bureau, in cooperation with the Geotechnical Engineering Bureau, has been evaluating the applicability and supply of cullet glass, particularly in downstate New York. They determined that it could be a good substitute as underdrain filter material, and developed a new specification for such use. TR&DB and GEB are working with the Departments of Environmental Conservation and Economic Development to identify sources of the material and to select the most appropriate NYSDOT projects to pilot the new specification.

ADVANCES IN ROCK SLOPE INVENTORY TECHNOLOGY

The GEB maintains an inventory of rock slopes on state highways which now contains over 2,500 rated rock slopes. The slopes are photographed, evaluated, and assessed for risk and rockfall history. A program is now being piloted whereby the information on the slopes from each Maintenance Residency can be provided to the Resident Engineer on a CD-ROM. This will make it possible for work on rock slopes to be considered along with other Maintenance and Capital Program needs on a more efficient basis.

BRIDGE SUBSTRUCTURE STRENGTHENING USING ADVANCED COMPOSITES

The TR&DB was involved in a bridge substructure strengthening project on the East Church Street Bridge in Elmira, NY , Chemung County. Two cap beams (piers) were strengthened by applying advanced composite materials over the existing concrete. Recent increases in dead load, due to a concrete wearing surface and placement of a concrete median barrier, have created a deficiency in structural capacity of the cap beams, causing potentially hazardous cracking. The Region decided to strengthen the capbeam, restoring the lost capacity using bonded-composite plates. TR&DB cooperated with Region 6 staff by reviewing the consultant's design, and conducting finite element analysis and load testing for structural evaluation of the strengthening system. The project was a success and has resulted in monetary savings to the Department.

NEW ANALYSIS OF PIPE INSTALLATIONS

The Department is changing the way it designs embankment surcharges as a result of new standards for the analysis of pipe installations. The GEB will be able to safely recommend higher embankment surcharges than presently allowed for certain pipes, permitting designers greater freedom in drainage choices.

CONTINUED DEVELOPMENT OF THE PAVEMENT MANAGEMENT SYSTEM

The Department developed a pavement management system in the late 1980's based on pavement surface condition surveys. This process is still effective and functional and is used heavily in the development of each region's capital program, as well as to provide an overall assessment of pavement conditions in the state. While the system and process work, there has been little change since the implementation nearly 15 years ago.

The pavement management system can be further developed and improved by incorporating advances in technology in the areas of data collection and analysis. The Pavement Management Services unit has been reestablished and is assessing the Department's pavement management activities, investigating new technologies, and studying other states experiences to identify potential areas of improvement in the Department's systems and processes.

APPENDIX

DIVISIONAL GOAL STATEMENTS
for 2000/2001

Geotechnical Engineering Bureau

- 00-1 QC/QA of Granular Materials
- 00-2 Comparison of Drilling Methods

Highway Data Services Bureau

- 00-3 Highway Functional Classification Mapping
- 00-4 Highway Data Management System
- 00-5 Department-wide Digital Access to Photolog Files

Transportation Research and Development Bureau

- 00-6 Policy and Procedure Manual *
- 00-7 Implementation of Internal Electronic Information Resource Sharing *

Materials Bureau

- 00-8 Precast Concrete QC/QA
- 00-9 Aggregate Acceptance Procedure *
- 00-10 Materials Acceptance Quality Assurance Procedure for Construction

* denotes new goal

Technical Services Division
GOAL STATEMENT

Goal Name: #00-1 QC/QA of Granular Materials

As Is: The responsibility for quality control of granular materials rests most heavily upon the State. It is not quite as obsolete as in the way it was formerly administered by Soil Control Procedure #13, but even the new Geotechnical Control Procedure #17 puts the majority of the testing burden on DOT. Thus the State does the only "official" testing, and all the effort placed in production quality control by the supplier is not utilized in the acceptance process.

Desired State: Unite production control with the responsibility for quality control. Utilize production quality control in the acceptance procedure. Reduce the State's testing burden to a quality assurance level.

Team Leader: Don Dwyer

Team: Todd Dickson, Steve Mabin, Bob Burnett, New York Construction Materials Association representative, AGC representative, Regional representation, Construction Division representation, etc.

Specific Goal for SFY 2000-2001: Review certification and acceptance standards for testing. Benchmark existing practices in this area, particularly from surrounding states. Investigate the suitability of "standard" tests for production applications. Develop an action plan to involve industry and investigate their willingness and ability to participate.

Rationale: The actual control of any production process is in the hands of the producer. They must sample and test their own product to keep their process in control. Taking advantage of this work which is already necessary could reduce DOT's workload, if quality can still be assured through random testing and appropriate actions.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-2 Comparison of Drilling Methods: Evaluation of Different Hammers for Standard Penetration Testing

As Is: This is a continuation of Op Goal #99-1. Several geotechnical parameters used in design analyses are based on the results of the penetration test performed when drilling and sampling foundation soils. A hammer of a specific weight dropping a standard height provides the energy to drive the standard sampler into the soil. In modern times, safety hammers and automatic hammers have been developed that offer advantages over the donut hammer we have traditionally used for this test. Differences in the way these hammers operate have given different results for the penetration test, with the potential of defining misleading soil parameters. In addition, we have used a different weight of hammer than industry standard, and our correlations to standard methods have never been verified with thorough field measurements.

Desired State: The objective of this goal is to investigate the influence of various hammers and their effect on the Standard Penetration Test (SPT). The influence of the different hammers on the subsurface information and ultimately on the design, analysis, and the cost of highway structures will be reviewed. The relative safety of the systems will also be assessed. After synthesizing the information, a summary of the comparison between the different hammers and the affect each has on the standard penetration test will be prepared for the use of designers.

Team Leader: Phil Walton

Team:

Drilling Practice and Techniques:	S. Misener, G. Piascik, W. Johnson, Reg. Drillers
Impact on Design and Analysis	Gary Douglas, Steve Borg, Don Arcari, Judy Stone
Document Preparation & Support	Walt Jutkofsky, Tony Minnitti

Specific Goal for SFY 00-02: The specific goal for the current year is to obtain additional field data as needed to compare the different hammers for the Standard Penetration Test. Design groups will review the data and evaluate its impact on different design requirements. Recommendations will be made to issue guidelines on factors that should be applied to the SPT blow count to perform designs consistent with past practices.

Rationale: The design, construction, and long term reliable performance of highway systems is dependent upon a quality subsurface exploration program. This goal will improve our capabilities by studying the influence of different SPT hammers and their impact on designs. By properly evaluating the hammers and developing correlation factors, we will be able to provide safer hammers to the Drill Crews and satisfy the need for consistent SPT results.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-3 Highway Functional Classification Mapping

As Is: Functional class mapping is a by-product of a more inclusive effort to make data for the entire Federal Aid System accessible through GIS. Thus far, the highway data files for the entire state system and the non-state Federal Aid highways for Regions 1, 6, and 7 can be accessed through GIS. For the remaining Regions, the only available maps showing functional classification are photocopies of maps from 1980 with hand-drawn edits to reflect the 1990 Census-based changes.

Desired State: A full integration of the highway data files with the map-based GIS representation for the entire Federal Aid System and a complete set of GIS-based functional classification/Federal Aid System maps for the entire state.

Team Leader: Patricia Maple

Team: Walt Frisbee, Donna Ieronimo

Specific Goal for SFY 00-01: Explore alternative means for obtaining the resources to complete the project (such as hiring additional staff or contracting out). In addition, reach out to Regional staff to assist with the completion of the project in those Regions which are furthest along. The goal is to complete three Regions in the next year.

Rationale: The decennial Census typically results in an update to the functional classification system three years later. By completing the mapping project prior to 2003, new maps can be produced simply by changing the functional class designations on the highway files and printing new maps. Without this GIS-based tool, hundreds of new maps will be need to be prepared cartographically (hand drawn, chart taped).

In addition, complete knowledge of the entire Federal Aid System (as opposed to just the state system) is becoming increasingly important in the day-to-day operations of the transportation community. Under TEA-21, in particular, federal funding availability is also dependent on the availability of good, non-state system data as well as state system data. The effort to make the highway data files consistent with and accessible through GIS will be paid back many times through the increased analytical capability and reduced staff time to access the data in the future.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-4 Highway Data Management System

As Is: The existing traffic and highway inventory data systems are based on outdated (30 year old) data collection & storage technology that is cumbersome to use and maintain, and makes access to the information the data represents cumbersome.

Desired State: To implement a highway data management system which makes critically relevant data easier to collect/maintain and more importantly, is more accessible (on the appropriate informational level) to numerous Department groups, Regional Offices, other State and Federal Agencies, and the public at large. The intent is to deploy a "relational database" model information system to support the collection, processing, and analysis of this infrastructure database. It would include all the tools necessary to collect, maintain, and summarize the data to verify its integrity and accuracy.

Team Leader: Todd Westhuis

Team: Michael Fay, Patricia Maple, Allen Pooler, Bernie Schatz, Larry Mulvaney

Specific Goal for SFY 00-01: The proposal was successfully progressed through the Information Technology Council, specifications prepared, and an RFP developed and advertised in SFY 99-00. The goal for 00-01 is to select a vendor, execute an agreement, and initiate Phase I (existing systems review and development of a proposed approach) of the project.

Rationale: Management will have more accessible, accurate and timely information on which they can make capital program decisions. Information from this infrastructure data will also be more accessible by numerous NYSDOT, Federal, and local governmental program areas, increasing the benefit derived from the ongoing data maintenance investment.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-5 Department-wide Digital Access to Photolog Files

As Is: The photolog is a valuable tool used by many Department managers, designers, claims attorneys, and the public to view design project sites, pavement deterioration, pavement or roadside conditions, signs, guiderail, accident locations and more. There is only one photolog viewer and one set of film per Region. The viewer is usually located at the regional office and must be shared among many users. This severely restricts access to the photolog, particularly for residency-based users and the public. Color prints can be made, but it takes one week for printing. Also, long projects can require many prints (e.g., 200 prints for a two mile project), which can be awkward to use.

Desired State: Use existing technology to create fast, widespread access at the main office, regions and residencies to the photolog through digitization of the 35mm photolog film and electronic access through the Department's intranet. Due to bandwidth issues with the current intranet system, the interim distribution process will be through in-house created CD rom files to regional servers or directly to regional users.

Team Leader: E. John Lewis

Team: Rick Bennett, Ralph Hopkins, Robert Powell, Stephen Lester

Specific Goals for SFY 00-01:

1. Receive approval from the IT Council to obtain the necessary equipment to progress the conversion of photolog files to digital format.
2. Develop specifications for and purchase a film scanner and CD writer system.
3. Begin digitizing the photolog library, starting with the most recent filming and working backward, and store on a server.
4. Provide on CD to each region, residency and other key users of the photolog files related to their area of interest.
5. Explore methods to provide direct access to photolog files through an online media.

Rationale: A system capable of accessing and displaying the photolog on any Department computer is needed. Any user, including the Commissioner, Regional Directors, designers, managers and field supervisors, will be able to view a road segment on their desktop computer. This increased access to already existing information will save considerable field travel, provide more comprehensive consideration of field conditions in project selection, scoping and design, provide visual access to site conditions by managers and executives who would not have time to travel to a site, and more. The digitization of the photolog files is the first and most basic step in the modernization of the 35 mm film photolog to a GPS based, GIS interfaced photolog system that is linked to other related highway inventory and condition data.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-6 Policy and Procedure Manual, Documenting SPR II Expenses and Obligations

As Is: In developing its annual research program, TR&DB determines program size by adding savings from the prior federal-fiscal year to known SPR Part II new-year federal-funding. Currently, savings are determined by comparing actual versus expected expenses for each project charged in the prior federal-fiscal year. However, savings for each project are accurate only if charges against it cover the specific time period October 1 through September 30. Further, actual SPR Part II "carryover" can only be computed by properly marrying state project numbers to the original federal-aid project obligating the money. TR&DB does not have a current system to account for its expenditures and accurately compute savings.

Desired Status: Develop methods to accurately compute savings and identify lapsing dates of federal-aid SPR Part II funds.

Team Lead: Austin McCarroll, Colin Campbell, Richard Dunn (FHWA)

Specific Goal For SFY 00-01: Develop a procedure to determine annual expenditures for each project and use that information to compute savings against each federal-aid SPR Part II project. Document the procedure and include it in TR&DB's Policy and Procedure Manual under Chapter 5, Program Evaluation.

Rationale: Savings, or carryover, must be obligated within three years of the conclusion of the federal-fiscal year it became available (or within one year for funds de-obligated outside the three year window). In recent years, savings have been increasing, rendering it important to accurately determine current carryover in order to advise management of the potential of lapsing federal-aid SPR Part II funds.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-7 Development and Implementation of Internal Electronic Information Resource Sharing

As Is: The information contained in the Transportation Research and Development Bureau Library is currently not accessible via the Department's internal network know as "Intradot." This goal will include the development and implementation of techniques for sharing information resources electronically.

Desired Status: Develop a Library web page to be placed on the internal NYSDOT site "Intradot." The library web page will be a portal for disseminating the valuable resources of the TR&DB library including: online catalog, research databases, library services, and new acquisitions.

Team Lead: Lynne Webb

Specific Goal For SFY 00-01:

1. Develop an "Intradot" web page for the Transportation Research & Development Bureau Library to increase access to information resources.

2. Investigate placing the online catalog on the "Intradot" and outline placement process. Coordinate with the Information Services Bureau.

3. Utilize "Intradot" web page to identify research needs.

Rationale: In order for the Library to achieve an optimal level of information and resources sharing it is necessary to make full use of the Department's electronic transfer capabilities. Increased access to accurate and timely information is essential to maintaining a high level of research and productivity to fulfill the Department's overall mission.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-8 Precast Concrete QC/QA

As Is: This is the next phase of work for implementation of precast concrete QC/QA. Significant progress was made with the completion of Goal 99-8. A new QC/QA based acceptance procedure for precast concrete products was completed by a joint Department/Industry Task Force. This next phase of work will focus on the implementation of the new procedure.

The quality assurance procedures for precast concrete vary between products. Some procedures rely heavily on manufacturer's quality control while others rely mostly on sampling, testing and inspection by Department resident plant inspectors. A new specification, 704-03 Precast Concrete, General, that combines products having similar fabrication requirements was recently implemented. No changes were made to the basis of acceptance for the products

For a considerable number of precast items, the precaster prepares shop drawings in accordance with the contract documents to clearly identify the fabrication requirements. The Department has the responsibility of reviewing and approving these shop drawings. This has the potential to delay project schedules.

Desired State: Utilize quality control by the manufacturer and quality assurance by the Department for assuring acceptable quality in precast concrete units to the extent that is reasonable.

Team Leader: Jim Reidy

Team: B. Ziemniak, R-4, C. Schultz, R-8, K. Clements, L. Cocozzo, M.O. Materials Bureau

Specific Goal: Specific goals for the current fiscal year include:

- Final approval of the precast concrete acceptance procedure.
- Finalize the shop drawing certification program.
- Begin implementation of the new precast acceptance procedure(s).

Rationale: The use of precast concrete products by contractors has increased significantly during the past decade and will continue in the foreseeable future. This increased use has placed a much higher demand for inspectors to cover the manufacturing operations under the standard quality assurance programs. The QC/QA process may be a more effective method for assuring acceptable quality of precast concrete products, while a shop drawing certification program will provide for more timely processing of drawings.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-09 Aggregate Acceptance Procedure

As Is: The procedures and processes used in accepting and continuing aggregate source approval have evolved over decades. Although these procedures are applied in a consistent and objective manner, they are not always sufficiently articulated or understood by all affected stakeholders. Further, it may be possible to streamline and improve these procedures.

Desired State: Establish an aggregate acceptance procedure that assures the Department of quality aggregates that satisfy all appropriate specifications. This procedure should identify accepted practices and test methods, clearly define the roles and responsibilities of all those affected, and result in timely action. In addition, this procedure should facilitate and promote the continued use of acceptable local aggregates to conserve scarce aggregate resources and contain costs. A document that clearly articulates all aspects of aggregate acceptance, promulgated as a Materials Method, will be the principal product of this review.

Team Leader: Robert V. Osborne

Team: *Industry:* D. Hamling, T. Spellman, W. Schmitz, C. Sutmeyer, P. Griggs
Regions: R. Aldrich, M. LaSalle, W. Brudi, T. O'Conner, R. Ziemniak
Main Office: R. Osborne, W. Skerritt

Specific Goal: Develop a Materials Method that clearly articulates all aspects of aggregate acceptance.

Rationale: The process of aggregate acceptance is time consuming and multipartite and has never undergone a thorough and systematic review. The Department relies on a continuing supply of quality aggregates for the Portland cement concrete and hot mix asphalt used on the state's transportation infrastructure. It is critical that these materials provide the anticipated service life to preserve this infrastructure in the most cost-effective manner. To achieve this it is necessary to articulate the Department's expectations for quality, and the rules and responsibilities of all parties to deal with a wide variety of aggregate materials derived from complex geologic environments.

Technical Services Division
GOAL STATEMENT

Goal Name: #00-10 Materials Acceptance Quality Assurance Procedure for Construction

As Is: This is a continuation of Goal 99-10. Significant progress was made on this goal in SFY 99/00 including conceptual approval of the Bureau's QA procedures by the FHWA. The next phase of work on this goal will focus on the implementation of revisions to the Bureau's IAST program consistent with 23 CFR 637.

Desired State: Full implementation of quality assurance procedures for construction of HMA and PCC which take full advantage of the revised regulation (adopted July 1995). The revised regulation allows flexibility in the design of the States acceptance programs. Specifically, the regulation now allows the use of contractor test results in making acceptance decisions, and the use of consultants in the required independent assurance program and verification sampling programs. The required testing must be performed by qualified laboratories and personnel, however, the requirements for "qualification" will be determined by the State.

Team Leader: Brad Allen

Team: D. Streeter, Z. Zavery, K. Clements, R. Mahoney, W. Koniowka, Materials Bureau Bill Brudi (Region 10), Tim LaCoss (FHWA).

Specific Goal: To bring Department's quality assurance procedures for construction of HMA and PCC in full compliance with Federal Regulation 23 CFR 637 Subpart B;, Specifically:

- Implementation of revisions to the Materials Bureau's IAST program.
- All Department, contractor, and vendor test results used in the acceptance decision (quality control and quality assurance test results) or as part of the independent assurance sampling and testing program will be performed by a qualified laboratory and qualified personnel by June 29, 2000.
- Non-Department laboratories that perform independent assurance sampling and testing or are used in dispute resolution sampling and testing must be accredited by the AASHTO Accreditation Program by June 29, 2000. Additionally, these laboratories may perform only one type of testing (verification, quality control, independent assurance, or dispute resolution) on the same project.

Rationale: The benefits resulting from the use of performance-relates specification are becoming more apparent with their expanded use as contractors and materials suppliers are heavily involved in the quality process. The use of contractor supplied test results is an essential component to insuring this involvement. Compliance with the revised regulation will establish the criteria for the necessary checks and balances required to protect the public investment.

01598
LRI